

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>P61.12PCT293</b>	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. <b>PCT/EP2004/005017</b>	International filing date ( <i>day/month/year</i> ) <b>11.05.2004</b>	Priority date ( <i>day/month/year</i> ) <b>16.07.2003</b>	
International Patent Classification (IPC) or national classification and IPC <b>F04D29/04</b>			
Applicant <b>EBM-PAPST ST. GEORGEN GMBH &amp; CO. KG</b>			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>6</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the report</li> <li><input type="checkbox"/> Box No. II Priority</li> <li><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input type="checkbox"/> Box No. VII Certain defects in the international application</li> <li><input type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul>
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Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/005017

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- international search (Rule 12.3 and 23.1(b))  
 publication of the international application (Rule 12.4)  
 international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- the international application as originally filed/furnished  
 the description:  
 pages 1-13 as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- the claims:  
 nos. \_\_\_\_\_ as originally filed/furnished  
 nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
 nos.\* 1-28 received by this Authority on 14.01.2005 with letter of 13.01.2005  
 nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- the drawings:  
 sheets 1/7-7/7 as originally filed/furnished  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3.  The amendments have resulted in the cancellation of:
- the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.	PCT/EP2004/005017
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Box No. V	<u>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</u>
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## 1. Statement

Novelty (N)	Claims <u>1-28</u>	YES
	Claims _____	NO
Inventive step (IS)	Claims <u>2-28</u>	YES
	Claims <u>1</u>	NO
Industrial applicability (IA)	Claims <u>1-28</u>	YES
	Claims _____	NO

## 2. Citations and explanations (Rule 70.7)

## 1. Reference is made to the following documents:

- D1: US-B-6 520 476 (CHUANG WEN-HAO)  
18 February 2003 (2003-02-18)
- D2: DE 100 62 446 A (SIEMENS AG)  
11 July 2002 (2002-07-11)
- D3: US-B-6 276 833 (CHEN LEE-LONG)  
21 August 2001 (2001-08-21)
- D4: DE 37 31 710 A (PAPST MOTOREN GMBH & CO KG)  
31 March 1988 (1988-03-31)
- D5: DE 201 18 024 U (CHUANG WEN HAO)  
10 January 2002 (2002-01-10)
- D6: US 2003/042 811 A1 (LIN JOHNNY)  
6 March 2003 (2003-03-06)
- D7: WO 02/10602 A (FUJINAKA HIROYASU; MATSUSHITA  
ELECTRIC IND CO LTD (JP))  
7 February 2002 (2002-02-07)
- D8: DE 198 48 291A (HITACHI LTD)  
29 April 1999 (1999-04-29)
- D9: EP-A-O 843 099 (SIEMENS AUTOMOTIVE CORP LP)  
20 May 1998 (1998-05-20)
- D10: DE 100 31137 A (STADTMUELLER UWE)  
22 February 2001 (2001-02-22).

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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PCT/EP2004/005017

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2. The present application fails to satisfy the requirements of PCT Article 33(1) because the subject matter of claim 1 does not involve an inventive step (PCT Article 33(3)).
- 2.1 Document D6 is considered to be the prior art closest to the subject matter of claim 1. Said document discloses (the references in parentheses are to said document) a mini-fan comprising a drive motor with an outer rotor (14) and an inner stator (20), said outer rotor being provided with a rotor shaft (12) with a constriction in the vicinity of its free end; a bearing tube (31), the inner stator being attached to the outer side thereof and a bearing arrangement (34) being disposed therein, the rotor shaft being rotatably seated in said bearing arrangement; a sealing arrangement (base part 30) which seals one end of the bearing tube in a fluid-tight manner; and a resilient retaining member (32) in the vicinity of the constriction of the rotor shaft, said retaining member engaging in the rotor shaft constriction, without contacting the rotor shaft during normal operation, and the rotor shaft being secured in this way against being withdrawn from the bearing arrangement.
- 2.2 The subject matter of claim 1 therefore differs from the known mini-fan in that the sealing arrangement and the resilient retaining member are configured as a single piece.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/005017

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- 2.3 The problem addressed by the present invention can consequently be regarded as that of improving the positioning of the rotor in the mini-fan.
- 2.4 The solution to the above problem, as proposed in claim 1 of the present application, cannot be considered inventive (PCT Article 33(3)). The reasons are as follows:
- 2.5 With regard to the feature concerning the configuration of the sealing arrangement and the resilient retaining member as a single piece, document D1 describes the same advantages as those according to the present application. A person skilled in the art would therefore regard the inclusion of this feature in the mini-fan described in D6 as a conventional measure for solving the problem of interest. In this way, he would arrive without inventive input at a mini-fan as per claim 1.
3. The combination of features according to claim 2 is not known from the available prior art, nor is it rendered obvious thereby. Accordingly, it is suggested that a new independent claim be drafted to include these features.
4. Claims 3-28 are dependent on claim 2 and, in consequence, likewise satisfy the requirements of the PCT in respect of novelty and inventive step.